TECHNICAL MANUAL

CHECKLIST
CONCURRENT FUEL
SERVICING OF COMMERCIAL
CONTRACT CARGO AND
PASSENGER AIRCRAFT
APPLICABLE TO B-707, B-727,
B-737, B-747, B-757, B-767, DC-8, DC-9,
DC-10, C-1011, MD-11, MD-81,
MD-82, MD-88, AND MD-90
AIRCRAFT

(ATOS)

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INTRODUCTION
GENERAL

This checklist provides, in abbreviated form, procedures for concurrent fuel servicing of commercial contract cargo and passenger aircraft (with or without passengers on board). The items in this checklist preceded by an asterisk will be used for concurrent fuel servicing cargo aircraft and aircraft without passengers on board. The intent of this checklist is to eliminate the probability of the omission of a step in the accomplishment of an intended task. The procedures contained herein are presented in the shortest practical form for use by qualified personnel and are not intended to provide full technical instructions.

The requirements of this checklist must be adhered to when the concurrent fuel servicing of commercial aircraft is accomplished on a military installation. Concurrent servicing is the simultaneous servicing of fuel or oxygen with either passengers on board or the performance of minor maintenance, fleet servicing, or baggage or cargo loading/unloading operations.

This checklist contains the steps necessary for preparation and performance of concurrent servicing. It does not contain all the safety precautions, notes, cautions, and warnings of a general or specific nature contained in TO 00-25-172. It is the responsibility of all involved functional managers to make sure personnel participating in the operation are thoroughly trained in these procedures.

Abbreviations used in this checklist are as follows:

ARFF	Aircraft Rescue and Fire Fighting
CONCOR	Contract Coordinator
CSS	Chief Servicing Supervisor
GPU	Ground Power Unit
PSI	Pounds per Square Inch

INTRODUCTION - Continued

REO	Refueling Equipment Operator
WVM	Wing Vent Monitor
SCR	Supervisory Contractor Representative
SPR	Single Point Receptacle
AIS	Aircraft Interior Supervisor

SUPPORT EQUIPMENT FOR CONCURRENT REFUELING OPERATIONS

The following support equipment is required to follow the procedures set forth in this checklist.

Electrical Generator Unit, if required.

Aviation Hydrant Servicers (with passengers on board) or R5/R9/R11 refuelers with deadman controls and non-collapsible fuel servicing hose.

Ground and Bonding Wires (as required).

Intercom Headsets, Contractor Supplied - A minimum of three (except B-757/767 aircraft which requires only two) for Air Force use with passengers on board (one 100-foot and two 50-foot or longer cords) and one for the contractor fuel control panel operator (four total). A minimum of two for Air Force use on non-passenger aircraft (one 100-foot and one 50-foot or longer cords) and one for the contractor fuel control panel operator (three total).

Air Conditioner (if required).

Fire Extinguisher, 150-lb Halon, or equivalent.

Vest with CSS Lettering.

ARFF Vehicle (required only when servicing with JP-4 or Jet B fuel and passengers are on board).

Passenger Handling Equipment.

Ramp and Stairs (as required).

Baggage Handling Equipment (as required).

Fleet Servicing and Catering Equipment (as required).

Maintenance Stands.

Cargo Handling Equipment.

PERSONNEL AND PERSONNEL LOCATIONS

*CSS	Stationed at nose of aircraft. Moves as required. Monitor wing fuel vents on the opposite side of the aircraft from the SPR.
*WVM	Stationed to observe the wing fuel vent outlets on the opposite side of the aircraft from the SPR when fuel servicing with passengers on board the aircraft. (Not required for B-757/767 aircraft).
	(One individual can monitor both fuel vents/SPR's on cargo aircraft and when passengers are not on board).
*REO	Stationed at refueling equipment unit.
Transportation	Passenger and baggage/cargo areas as required.
CONCOR	Passenger and cabin area as required.
AIS	Stationed in the cockpit of B-757/767 aircraft to maintain voice contact with the CSS and to alert personnel remaining in the cabin area in case of emergencies.

NOTE

When fuel servicing with government-provided fuel on a United States Air Force (or other) installation, the United States Air Force (or other service) shall furnish additional personnel for monitoring each fuel nozzle connection where the number of personnel required exceeds those specified in the contract.

*SCR	Stationed at maintenance stand with access to refueling control panel and SPR nozzle connections. This duty can be performed by a designated representative allowing the SCR to position himself as required. Monitor fuel vents on the same side of the aircraft as the SPR connections and/or fuel control panel.
Cabin Crew	One attendant positioned at each passenger exit when passengers are on board.

NOTE

*The CSS will wear a reflective vest with the letters CSS on the front and back. Letters will be at least six inches in height and four inches wide, and of reflective material. Reflective material used must be at least one inch wide.

*1. The refueling team will consist of a CSS, SCR, and, when fuel servicing with passengers on board the aircraft, a passenger compartment monitor and WVM to observe the fuel vent outlets on the opposite of the aircraft from the SPR.

*2. THE CSS SHALL HAVE FULL AND FINAL AUTHORITY DURING ALL PHASES OF THE CONCURRENT SERVICING OPERATION. RESPECTIVE TEAM CHIEFS FROM TRANSPORTATION, FLEET SERVICING, AND CATERING WILL BE RESPONSIBLE TO THE CSS TO ENSURE THEIR PERSONNEL COMPLY WITH ALL REQUIRED PROCEDURES DURING THE CONCURRENT SERVICING OPERATION. THE DEPLOYMENT OF ARFF EQUIPMENT AND PERSONNEL WILL BE UNDER THE CONTROL OF THE ON-SCENE FIRE CHIEF.

WARNING

Passengers/patients are not allowed to enter or exist the aircraft during fuel servicing. (Exception: Passengers/patients are permitted to emplane or deplane anytime during concurrent servicing operations when the aircraft is using a commercial-type passenger loading bridge/stand/ramp, commonly referred to as a jetway.)

CAUTION

*The 40K loader open-flame heater will not be used within the fuel servicing safety zone.

*3. PRIOR TO CONCURRENT FUEL SERVICING OPERATIONS:

*The CSS must:

*a. Meet with SCR to determine, define, or make sure:

*(1) Status/condition of aircraft and its systems.

*(2) Specific servicing requirements.

*(3) If any unfamiliar system characteristics or deficiencies exist.

*(4) The duties and physical positioning of the carriers technical personnel during the concurrent servicing operation.

*(5) Timing of any maintenance required, cargo/baggage loading/unloading, fleet servicing, catering/food service functions, and any other function that requires personnel or equipment movement within the fuel servicing safety zone.

*(6) Verify that any civilian vehicles, such as catering trucks etc., involved in the concurrent servicing operation meet the requirements outlined in T.O. 00-20B-5, pertaining to authorizations for use in the fuel servicing safety zone. Powered support equipment is allowed in the FSSZ as long as it is at least 25 feet from pressurized servicing components and fuel vent outlets. Vehicles not designed or approved for use within a hazardous location may be moved into or within the FSSZ, if pressurization of the refueling equipment is stopped. Repressurization of the refueling equipment will not resume until the servicing vehicle's engine is shut down while in the FSSZ, or the vehicle leaves the FSSZ.

*(7) Intercom headsets, required to be furnished by the contractor, will be available. (Two sets, one with 100 and one with 50 foot or longer cord for the use of military personnel and one set for contract carrier fuel control panel operator, total of three each, except for B-757/767 aircraft which requires only two).

*b. Brief each individual team chief on their duties and responsibilities. They are responsible for briefing their personnel on the following requirements:

*(1) Report to the CSS any condition that might jeopardize safety.

∗(2) Coordinate all phases of their operation with the CSS.

∗(3) When concurrent servicing operations are in progress, all personnel, unless previously cleared, shall report to and receive the CSS's concurrence prior to entering the concurrent servicing area.

∗c. Brief team members on emergency procedures. In the event of an emergency:

∗(1) CSS shall stop fuel flow.

(2) CSS shall determine if evacuation of passenger/team members from aircraft is required.

∗(3) Initiate normal or emergency evacuation of aircraft as necessary.

∗(4) If situation/hazard warrants, bring ARFF vehicle into action and turn operation over to ARFF personnel.

∗(5) Assist ARFF personnel as required.

∗d. Verify a pressurization and serviceability check of the refueling equipment has been previously accomplished prior to dispatch of the refueler to the concurrent servicing operation.

e. Ensure the Fire Department is notified at least 15 minutes before starting concurrent servicing operations, and, if personnel are remaining on board the aircraft, informed of the number of people involved.

f. Verify ARFF vehicle is present in the immediate area when the aircraft is being serviced with JP-4 or Jet B fuel and when passengers are on board. ARFF vehicle is not required when servicing is not with JP-4 or Jet B fuel or when passengers are not on board or for cargo aircraft. However, Fire Department should be notified of impending concurrent servicing.

g. Fueling stops if CFR is withdrawn.

4. **BEFORE COMMENCING OPERATIONS:**

∗a. The CSS will coordinate:

∗(1) Parking, chocking, and grounding or bonding of aircraft.

CAUTION

∗Ground power unit (GPU) must be positioned outside the fuel servicing zone and when possible, uphill of the fuel servicing area, pressurized fuel servicing equipment, and fuel vents.

∗(2) Positioning and connecting GPU.

∗(3) Connection of intercom headsets.

NOTE

∗The CSS will remain in constant voice contact with personnel in the cockpit (when passengers, flight or ground crew members are on board), SPR/fuel vent monitor(s) and fuel control panel operator (WVM not required on B-757/767 aircraft).

∗The B-757/767 aircraft have two completely separate intercom systems, flight and servicing. Therefore, the individual in the cockpit must take responsibility for notifying personnel in the cabin area in the event of an emergency.

∗b. The CSS will:

∗(1) Check with the SCR to determine the status of the aircraft and its systems. If the fuel jettison system was used, fuel servicing will not be started until it is determined and verified that the jettison valves are closed.

∗(2) Make sure cabin crew personnel have briefed passengers concerning fuel servicing.

∗c. The CSS will direct and monitor the following equipment and personnel movement/positioning/ connections:

∗(1) Direct support equipment to be positioned at aircraft.

(2) Positioning of air conditioner (if required) will be outside the fuel servicing safety zone.

(3) Position lavatory servicing truck and portable water truck as required.

∗(4) Positioning and bonding of hydrant hose cart(s) or refueling vehicles as required.

CAUTION

- Fuel hoses will not be connected to hydrant or aircraft SPR until deplaning passengers via a portable staircase are outside the concurrent servicing area.
- ∗Maintenance stands and equipment used in concurrent servicing must be positioned to make sure aircraft is not damaged when it settles during refueling operations.

∗(5) Position maintenance stands and bond metallic stands to the aircraft when using the stands to access the aircraft SPR's or support a fuel servicing hose during fuel servicing operations.

(6) Make sure ramps and stairs are in their proper position and unobstructed to enable emergency egress.

(7) Advise servicing personnel to avoid the ram air turbine (RAT) doors behind the right main landing gears on B-757 and B-767 aircraft.

WARNING

Voice contact must be established and maintained at all times during the fuel servicing portion of concurrent servicing operations when passengers, flight or ground crew members are on board the aircraft. The aircraft intercom system should be used as the primary means of maintaining voice contact between the fuel servicing team members. If the aircraft intercom system is inoperative and cannot be used to maintain voice communications, portable hand-held radios may be used to provide voice contact subject to the following stipulations. Radios can be used within the FSSZ; however, only intrinsically safe radios can be used within 10 feet of any aircraft fuel vent outlet, fuel spill or fuel tank truck being filled from aircraft defueling.

*d. Direct all refueling team members to take their positions and establish voice contact.

e. Make sure ARFF vehicle is in place prior to starting the refueling operation when servicing with JP-4 or Jet B fuel and when passengers are on board.

*5. FUEL TRANSFER PHASE OF CONCURRENT SERVICING OPERATIONS:

WARNING

- *Maintenance and repair of aircraft electrical, radio, radar, fuel, or other systems requiring use of electrical power, shall not be accomplished during fueling operations. In addition, lines containing flammable or combustible liquids shall not be opened.
- *Only those aircraft switches required for concurrent servicing operations will be operated.
- *Vehicles shall not be allowed to operate/pass within 25 feet of aircraft fuel vents and pressurized fuel servicing system components (except Boeing 747/757/767 aircraft which are acceptable for having authorized vehicles pass underneath but may not stop or be parked directly beneath the fuel vent outlets).
- *A malfunction of any component of the fueling system will require an immediate shutdown of the fueling operation until defect is repaired.

NOTE

The MD-11 aircraft contain fuel in the horizontal stabilators. Avoid placing personnel or equipment underneath the stabilator fuel vent outlet.

CAUTION

- *All ground power units and air conditioners will be connected prior to starting fuel servicing. Equipment shall remain connected until fuel servicing is terminated.
- *High-lift trucks will not be raised/lowered or moved within the fuel servicing safety zone while refueling equipment is pressurized unless the high-lift truck is designed, approved and maintained for use within a hazardous location.

a. Fueling operations will begin only when deplaning passengers are clear of the concurrent servicing area.

*b. The CSS will:

*(1) Instruct the SPR/Vent monitor(s) to verify all wheels are chocked as required.

*(2) Inform refueling team members on intercom that fuel transfer is to begin.

NOTE

*The SCR will receive and connect/disconnect fuel nozzle to SPR.

*c. The SCR, or his designated representative; will:

*(1) Remove cover from fuel nozzle, and visually inspect locking pins/lugs and seal for serviceability before connecting to aircraft.

CAUTION

∗Prior to pressurizing the system, the SCR or his designated representative shall check the strainer coupling quick disconnect locking, and shall ensure the refueling nozzle is securely locked to the aircraft by attempting to remove the nozzle with the poppet valve in the open position. If the refueling nozzle can be removed from the aircraft with valve open, the refueling unit/hydrant hose cart operator will be immediately notified to remove the nozzle from service.

∗(2) Connect fuel nozzle to applicable SPR adapter, open valve, and verify nozzle is locked by trying to remove nozzle.

∗(3) Set applicable tank refuel switches to open.

∗(4) Inform CSS ready for refueling.

∗d. The CCS will inform all refuel team members the aircraft is ready for refueling.

CAUTION

∗Do not exceed 55 PSI, refueling pressure, as indicated at refueling source.

∗e. Start fuel flow.

Pages 12A/B are deleted.

***NOTE**

Refueling will be accomplished in accordance with applicable refueling directives.

* **WARNING**

Stop refueling operation if fuel flow does not stop during precheck. Refueling will not be resumed until the problem has been corrected.

*g. Perform fuel flow precheck.

*h. Direct fueling equipment operator to stop fuel flow when desired quantity is loaded.

*i. Set all fuel switches to close.

CAUTION

The SCR must make sure fuel flow has stopped and hose is depressurized/evacuated prior to disconnecting nozzle from SPR adapter. Make sure nozzle handle is closed prior to depressurizing hose.

*j Close the refueling nozzle and disconnect nozzle from SPR adapter.

*k. Reinstall SPR adapter cap.

***NOTE**

Be sure SPR adapter cup is properly secured.

*l. Wrap and store all refueling hoses, remove grounding bonding wires, and clear fuel servicing and support equipment from the area.

*m. The CSS will have SPR/Vent monitor(s) reposition aircraft wheel chocks as required.

*n. Release CFR vehicle from area.

*o. Release refuel team members.

*p. Notify flight crew/contractor representative that refueling is complete.

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